

U.S. Dairy Forage Research Center - Annual Field Operations Report

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The spring of 1998 began the growing season with above average temperatures. The 1998 spring followed three consecutive springs where temperatures were well below normal. The winter was very mild which left little to no frost in the soil in early spring. A lack of frost contributed to ideal conditions for early planting (Table 1) and a very good start to forage growth in the spring. Accumulated growing degree days were well above average for the growing season. The mild winter did little damage to overwintering alfalfa and other perennial forage crops. The warm spring stimulated rapid alfalfa growth in April and early May. Alfalfa growth and development appeared to be about 2 to 3 weeks ahead of average spring growth which resulted in the cutting of our first alfalfa field on 16 May (Table 2). Typically our first alfalfa cutting will occur around 27 to 30 May. This early start to cutting set the stage for four growing season harvests for several fields and along with timely rainfall produced excellent yields of dry matter (DM). Rainfall recorded at the farm entrance rain gauge in inches were 3.40 in April, 5.62 in May, 7.30 in June, 2.32 in July, 4.64 in August, 3.77 in September, 2.58 in October, 1.91 in November and 0.12 in December. We continue to plant a large number of acres of all crops with little or no tillage, although we did increase the amount of surface tillage this past cropping season. Fields that are being planted to forage crops have been tilled to facilitate traveling over fields in the harvesting process. Also in fields where high rates (9,000 + gallons) of manure have been applied, surface tillage was accomplished with the Aer-way tillage implement. Manure application rates of over 9,000 + gallons per acre combined with soybean and corn residues develop an insulating mat, significantly reducing the rate of drying and warming of the soil surface. Disturbing the crusted residue at the soil surface has increased corn plant stands and their uniformity while still maintaining adequate amounts of surface residue and the improved soil tilth developed during previous years of no-till planting.

The excellent growing season produced very high yields of corn, soybeans, red clover and alfalfa (Table

3). The oat crop appeared to be headed for high yields but this did not happen. Untimely, hot weather during grain fill and unexpected rust development produced poor yields and very low (24 lbs/bu) test weights for oats. Oat grain filling is particularly sensitive to hot temperatures. Soybean plants thrived this past growing season, and even though white mold was present, it had minimum impact on yields.

We continue to be plagued with lightening troubles to both our drive over scale and our electronic gate access to the Badger Army Ammunition Plant (BAAP). An interim system that uses phone lines to transmit video and gate opening and closing signals has been installed. This phone line system is less susceptible to lightening damage; however, anytime a storm passes through this area we disconnect the system to prevent potential damage. We will likely be required to maintain this type of access to BAAP at least through the 1999 growing and harvest season.

Several projects were worked on this past season. We added some permanent laneways to the grazing research area to facilitate cattle and equipment movement during wet weather. The field crew also worked on a large fencing project at the BAAP. This project will facilitate our leasing cropland closer to our building complex. We acquired a new Ag Bag machine (fills 8 ft. diameter bags) which we used very extensively this season. Ten bags were filled for various research projects and eight bags were filled with general herd feed. The farm also acquired a unique soybean roaster that uses heated oil to roast the soybeans. This roaster will allow us to economically roast soybeans grown at the farm and maintain control over the degree of roasting the soybeans receive.

Mike Rogers, one of our farm equipment operators, resigned in February 1998 to pursue a full-time assessing career. We appreciated Mike's many contributions to the Research Center's programs and wish him much success in his new career. Dan Wendt, a former farm equipment operator at the University of

Wisconsin's Arlington Experiment Station was hired in August 1998 to fill the vacant Agriculture Project Supervisor position. We welcome Dan and look forward to working with him.

It now appears that the BAAP is definitely no longer going to be required by the Department of Defense. The General Service Administration (GSA), the broker for all Federal Property, has begun in earnest to develop a reuse plan for the land and assets of the BAAP. This process is governed and regulated by federal laws and procedures established by congressional acts over the years. As a federal agency the USDA has a first opportunity to request property if it has a justifiable use for properties no longer required by other federal agencies. The USDA has submitted a formal application on behalf of the USDFRC to the GSA to acquire approximately 1400 acres of crop and pasture land needed in our research program. The only other federal agency to express an interest in acquiring land from the BAAP has been the Bureau of Indian Affairs on behalf of the Winnebago Ho Chunk tribe. The GSA and former Congressman Scott Klug have held numerous informational meetings concerning the reuse of the BAAP. The land occupied by the BAAP contains about 7,400 acres and it is located at the base of the Baraboo Bluffs near Devils Lake State Park. There is a great deal of history to this area from pre-settlement to the present. This large contiguous property and its unique location have peaked the interest of local and state conservation and environmental organizations, recreational organizations, business development groups, railroad commissions, historical groups, etc., concerning the reuse plans being developed by GSA for the BAAP. The reuse ideas expressed to GSA representatives range from restoring the entire 7,400 acres to its pre-settlement prairie status to a multiuse facility that would include prairie restoration, recreation, sustainable agriculture, a USDFRC program and low environmental impact business. The planning process is currently proceeding with a goal of having a preliminary reuse plan available for public comment by early summer 1999. After a period for public comment and refinement, a final reuse plan will be developed which then will require an environmental impact study (EIS) taking approximately 18 months. If

the EIS determines that the reuse plan does not negatively impact the environment, then the GSA will begin to implement the reuse plan. At any time in this process a state's elected representative to the congress could sponsor legislation to circumvent the GSA process. In fact, former Congressman Scott Klug attempted to pass legislation to turn over a significant part of the BAAP to the State of Wisconsin. This legislation was not successful. Needless to say the USDA's acquisition of pasture and cropland from the excess BAAP are critical for the continuation of the USDFRC research programs. We appreciate, are encouraged by, and look forward to continued support from the dairy forage producers; industry representatives and organizations; and the College of Agricultural and Life Sciences, University of Wisconsin - Madison as we seek to acquire the resources needed to maintain this important and productive research program.

This has been an extremely busy and quite remarkable year at the USDFRC. It produced record crop yields, a variety of forage research materials successfully harvested and stored, some major improvement projects completed and an opportunity to acquire the land needed to support our research programs. Many elements contribute to successful programs; the USDFRC farm has an excellent staff of employees that contribute to a productive and successful research program. I thank all of our employees for their efforts this past year.

Table 1. 1998 planting⁺ and harvesting dates.

Crop	Planting		Harvesting	
	Start	Finish	Start	Finish
Oats	4/6	4/6	7/15	7/16
Soybeans	5/8	5/14	9/22	10/15
Corn	4/20	5/15	9/17	10/26
Corn silage	-	-	8/26	9/21
Alfalfa	8/18	8/18	-	-
Per. Ryegrass	4/24	4/24	-	-

+No alfalfa was spring seeded in 1998.

Table 2. 1998 forage cutting dates.⁺

Crop	Acres	Alfalfa		Red clover [‡]		Per. Ryegrass	
		Start	Finish	Start	Finish	Start	Finish
First	330	5/16	6/2	6/6	6/6	6/30	7/1
Second	330	6/20	7/9	7/11	7/11	8/10	8/10
Third	330	7/23	8/10	8/26	8/26	10/10	10/10
Fourth	148	8/24	8/29	-	-	-	-

⁺Not all alfalfa fields were harvested 4 times, Red clover Acres = 14, Ryegrass Acres = 39.

[‡]Red clover was no-till seeded on 8/18/97.

Table 3. 1998 crop yield data.

Crop	Ac	Yields			
		Low	High	Mean	Total
		----- bu/acres -----			
Oats	50	-	70.6	70.6	3,528
Soybeans	201.6	53.7	68.0	64.7	13,037
Corn grain	259.0	132.3	210.4	181.8	47,095
		----- tons DM (as is)/acres ⁺ -----			
Corn silage	137.6	7.2 (19.0)	8.7 (22.9)	8.1 (21.4)	1,118 (2,941)
Alfalfa	330.0	4.16	6.61	5.24	1,729
Red clover	14.0	-	6.30	6.30	88
Per. Ryegrass	39.0	-	3.43	3.43	124

⁺Corn silage harvest moisture ranged from about 30% to 41% moisture.

-alfalfa includes hay and haylage DM.